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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/764,537	01/27/2004	Kouki Yamamoto	L8462.04102	9617

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EXAMINER

LE, LANA N

ART UNIT	PAPER NUMBER
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2618

DATE MAILED: 05/18/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/764,537	Applicant(s) YAMAMOTO ET AL.	
	Examiner Lana N. Le	Art Unit 2618	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 1/27/04
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6, 11-12 is/are rejected.
- 7) ☒ Claim(s) 7-10 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hiroaki et al (JP 2002-185,256) in view of Kazuhiko (JP 2001-148,594).

Regarding claim 1, Hiroaki et al disclose a radio frequency device (fig. 1) comprising:

a circuit board (insulating substrate 15) having a ground pattern (conductive pattern 12a) on a surface thereof;

a radio frequency circuit part (electronic part) and a transmission line (conductive pattern 12) disposed on a top surface of said circuit board (insulating substrate 15); and

a metal shielding cap (lid 13) fixed to said circuit board (insulating substrate 15) so as to cover said radio frequency circuit part (electronic part) and said transmission line (conductive pattern 12),

wherein said metal shielding cap (13) comprises: a top plate (top layer of 13) disposed above said radio frequency circuit part (electronic part) and substantially parallel to said circuit board (insulating substrate 15); and a grounded side wall

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(extending part 16) being provided so as to hang down from a part of an edge of said top plate, having a spring property and being joined to said ground pattern (conductive pattern 12a) of said circuit board so as to be electrically connected thereto, and a side wall (open right sidewall without the extending part 16) of said metal shielding cap (lid 13) is open except for said grounded side wall (side wall with extending part 16, 21).

Hiroaki et al do not disclose the grounded side wall has a spring property. Kazuhiko discloses the extending part (6) of the grounded side wall has a spring property (para. 25). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have the part has a spring property to provide secure fixing to the circuit board by flexible elasticity.

2. Claims 2-6 and 11-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hiroaki et al (JP 2002-185,256) in view of Noriyuki et al (JP 2002-009,478) and further in view of Kazuhiko (JP 2001-148,594).

Regarding claim 2, Hiroaki et al disclose a radio frequency device (fig. 1) comprising:

a circuit board (insulating substrate 15) having a ground pattern (conductive pattern 12a) on a surface thereof;

a radio frequency circuit part (electronic part) and a transmission line (conductive pattern 12) disposed on a top surface of said circuit board (insulating substrate 15); and a metal shielding cap (lid 13) fixed to said circuit board (insulating substrate 15) so as to cover said radio frequency circuit part (electronic part) and said transmission line (conductive pattern 12),

wherein said metal shielding cap (lid 13) comprises: a top plate disposed above said radio frequency circuit part (electronic part) and substantially parallel to said circuit board (insulating substrate 15); a grounded side wall (extending part 16) being provided so as to hang down from a part of an edge of said top plate, having a hang down from a part of an edge spring property and being joined to said ground pattern (conductive pattern 12a) of said circuit board (insulating substrate 15) so as to be electrically connected thereto, and a side wall of said metal shielding cap is open (open right sidewall without the extending part 16) except for said grounded side wall (sidewall with the extending part 16, 21) and said non-grounded side wall. Hiroaki et al do not disclose a non-grounded side wall and a notch opened downward is provided at a boundary between said grounded side wall and said non-grounded side wall.

Noriyuki et al disclose a non-grounded side wall (other sidewall 12 hang down from edge of top plate 3 without extending part 16; pointed to as sidewall "b"; fig. 2) provided so as to adjoin said grounded side wall (sidewall with extending part 16), to hang down from another part of the edge of a top plate (10) and to be shorter than said grounded side wall (sidewall a with extending part 16), a notch (18) opened downward is provided at a boundary between said grounded side wall (pointed to as sidewall "a") and said non-grounded side wall (b) (para. 26-28). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have a non grounded sidewall with a notch in order to provide a resin flow area to raise the vibration and oxidation resistance as suggested by Noriyuki et al (para. 22). Hiroaki et al and Noriyuki et al do not disclose the grounded side wall has a spring property. Kazuhiko discloses the

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extending part (6) of the grounded side wall has a spring property (para. 25). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have the part has a spring property to provide secure fixing to the circuit board by flexible elasticity.

Regarding claim 3, Hiroaki et al, Kazuhiko and Noriyuki et al disclose the radio frequency device according to claim 2, wherein Noriyuki et al disclose said non-grounded side wall (b) has a length larger than a height of said radio frequency circuit part (22) (see fig. 7) (para. 29), and said grounded side wall (a) is joined to said ground pattern (24) of said circuit board (20) with a lower end (14 of sidewall b; fig. 2) of said non-grounded side wall abutting on the top surface of said circuit board (20) (para. 32).

Regarding claim 4, Hiroaki et al, Kazuhiko, Noriyuki et al disclose the radio frequency device according to claim 2, wherein Hiroaki et al disclose said opened part of a side surface has a height and width set so that of said metal shielding cap not in contact with said radio frequency circuit part (electronic part) disposed on said circuit board (15) (see fig. 1 where only extending part 16 of other sidewall contact the electronic part).

Regarding claim 5, Hiroaki et al, Kazuhiko, and Noriyuki et al disclose the radio frequency device according to claim 3, wherein Hiroaki et al disclose the opened part of a side surface of said metal shielding cap has a height and width set so that said metal shielding cap is not in contact with said radio frequency circuit part (electronic part) disposed on said circuit board (15) (see fig. 1 where only extending part 16 of other sidewall contact the electronic part).

Regarding claim 6, Hiroaki et al, Kazuhiko, and Noriyuki et al disclose the radio frequency device according to claim 5, wherein Noriyuki et al disclose the opened part (18) of the side surface of said metal shielding cap is arch-shaped (fig. 6).

Regarding claim 11, Hiroaki et al, Kazuhiko, and Noriyuki et al disclose the radio frequency device according to claim 2, wherein Hiroaki et al disclose said opened part (right open sidewall without extending part 16) of a side surface of said metal shielding cap has a height and width set so that said metal shielding cap is not in contact with said transmission line (conductive pattern 12) disposed on said circuit board (15) (see fig. 1 where only extending part 16 of other sidewall contact the ground pattern of circuit board 15).

Regarding claim 12, Hiroaki et al, Kazuhiko, Noriyuki et al disclose the radio frequency device according to claim 3, wherein Hiroaki et al disclose said opened part (right open sidewall without extending part 16) of a side surface of said metal shielding cap has a height and width set so that said metal shielding cap is not in contact with said transmission line (conductive pattern 12) disposed on said circuit board (15) (see fig. 1 where only extending part 16 of other sidewall contact the ground pattern of circuit board 15).

Allowable Subject Matter

2. Claims 7-10 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Regarding claim 7, Hiroaki et al and Noriyuki et al disclose a radio frequency device according to claim 5, wherein Hiroaki et al, Noriyuki et al and the cited prior art do not disclose a radio frequency circuit part whose impedance is sensitively affected by a distance from said metal shielding cap is disposed in the opened part of the side surface of the metal shielding cap.

Regarding claim 8, Hiroaki et al and Noriyuki et al disclose the radio frequency device according to claim 6, wherein Hiroaki et al, Noriyuki et al and the cited prior art do not disclose a radio frequency circuit part whose impedance is sensitively affected by a distance from said metal shielding cap is disposed in the opened part of the side surface of the metal shielding cap.

Regarding claim 9, Hiroaki et al and Noriyuki et al disclose the radio frequency device according to claim 5, wherein Hiroaki et al, Noriyuki et al and the cited prior art do not disclose a radio frequency circuit part for low power through which a low radio frequency signal power flows is disposed in a position in a proximity of the opened part of the side surface of the metal shielding cap, and a radio frequency circuit part for high power through which a high radio frequency signal power flows is disposed in a position in a proximity of the non-opened part of the side surface of the metal shielding cap.

Regarding claim 10, Hiroaki et al and Noriyuki et al disclose the radio frequency device according to claim 6, wherein Hiroaki et al, Noriyuki et al and the cited prior art do not disclose a radio frequency circuit part for low power through which a low radio frequency signal power flows is disposed in a position in a proximity of the opened part of the side surface of the metal shielding cap, and a radio frequency circuit part for high power through which a high radio frequency signal power flows is disposed in a position in a proximity of the non-opened part of the side surface of the metal shielding cap.

Conclusion

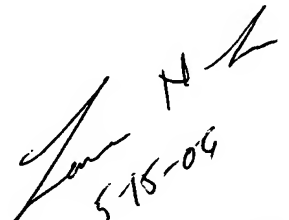
3. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lana N. Le whose telephone number is (571) 272-7891. The examiner can normally be reached on M-F 9:30-18:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward F. Urban can be reached on (571) 272-7899. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Lana Le


5-15-06
LANA LE
PRIMARY EXAMINER